

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 9, lines 19-26 with the following amended paragraph:

The choices made in the mid-level optimization process 300 are target-dependent, such that the optimizations can be directed by a set of parameters determined by the target architecture. The mid-level optimization process 300 comprises the steps of analyzing the internal representation (IR) to determine computations on the critical path as shown in step 310, determine computations with a lot of slack as shown in step 320, determine computations amenable to resource sharing as shown in step 330, generating the most efficient design implementation as shown in step 340, and determining whether the predefined criteria has been met in step 350~~step 345~~.

Please replace the paragraph at page 11, lines 20-23 with the following amended paragraph:

~~In step 345~~In step 350, the configuration instructions are simulated. For example, a configuration instruction set is transmitted to a simulator. The simulator generates a simulation of the hardware realization based on the configuration instruction set. This may be performed for all of the generated configuration instruction sets.